



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10**

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OFFICE OF
WATER AND
WATERSHEDS

APR 2 2014

Ms. Donna Darm
Associate Deputy Regional Administrator
Protected Resources Division
National Marine Fisheries Service
7600 Sand Point Way NE
Seattle, Washington 98115

Dear Ms. Darm:

The Office of Water and Watersheds (OWW) at the U.S Environmental Protection Agency, Region 10 is pleased to communicate to you that we have completed our work outlined in two conservation measures from the National Marine Fisheries Service's (NMFS) Biological Opinion (BiOp) for the Joint Base Lewis McChord Wastewater Treatment Plant's National Pollutant Discharge Elimination System (NPDES) permit. The conservation measures were developed to address concerns about the potential effects of polybrominated diphenyl ethers (PBDEs) on Puget Sound and Southern Resident Killer Whales. The conservation measures are outlined in the October 25, 2011, letter from Michael Bussell to Steven Landino (enclosed) and were included in the above noted BiOp as a term and condition. We have summarized the actions we took to address the conservation measures as follows:

1. In coordination with NMFS, OWW hosted a series of technical workgroups during spring 2013 on the following topics:
 - a. PBDE removal efficiency in wastewater treatment plants,
 - b. PBDE modeling in Puget Sound (fate, transport, and bioaccumulation),
 - c. the need to establish a PBDE toxicological threshold for Southern Resident Killer Whales, and
 - d. No Observed Effect Concentration (NOEC) levels of mixtures of persistent organic pollutants (including PCB and PBDE congeners).

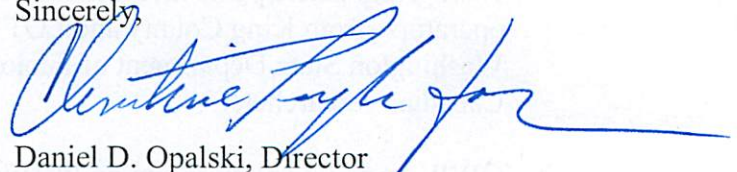
Workgroup participants included national PBDE experts, local wastewater treatment plant operators (from King County and LOTT Clean Water Alliance), and representatives from Washington State Department of Ecology (Ecology), NMFS and the EPA, as well as Canadian researchers.

2. OWW hosted a policy forum on PBDEs and Southern Resident Killer Whales on June 6, 2013. The policy forum was the culmination of the technical workgroups and provided an opportunity for senior level staff at Ecology, NMFS, the Puget Sound Partnership, and the EPA to learn about and discuss the issues surrounding PBDEs in Puget Sound, especially as these chemicals relate to killer whales.

3. OWW and NMFS Northwest Region staff wrote a report describing the results of the technical workgroups and policy forum (enclosed). This report is also available via the Encyclopedia of Puget Sound at <http://www.eopugetsound.org/articles/report-potential-effects-pbdes-puget-sound-and-southern-resident-killer-whales>.
4. Workgroup and policy forum participants acknowledged the need for additional monitoring of PBDEs and other flame retardants and persistent bioaccumulative toxics in Puget Sound waters. During fall 2013, OWW convened and facilitated two workgroups with staff from the Puget Sound Ecosystem Monitoring Program (PSEMP) Toxics Workgroup, the PSEMP Birds and Marine Mammals Workgroup, and Ecology. These meetings resulted in two products:
 - a. An inventory of past and present PBDE monitoring programs in and around the Puget Sound area (enclosed), and
 - b. PBDE monitoring recommendations that coincide with the Puget Sound Partnership's Vital Signs/Dashboard Indicators, as well as with the Puget Sound Ecosystem Monitoring Program (PSEMP)'s Toxics and Marine Mammal workgroups' forthcoming monitoring recommendations (enclosed).
5. By way of the technical workgroups, policy forum, and monitoring workgroups, the EPA has coordinated with Ecology regarding PBDE monitoring in NPDES permits. Ecology has been made aware of the PBDE issue, especially as it pertains to Southern Resident Killer Whales.
6. A major finding of the workgroups was that well-run wastewater treatment plants with low solids discharges are effective at reducing PBDE discharges from the effluent. Thus, encouraging advanced treatment and removal of particulates from effluent helps to reduce PBDEs in wastewater discharges.

I would like to take this opportunity to recognize the efforts of our respective staff. Teresa Mongillo of your staff made significant contributions to this work, and Catherine Gockel of my staff led the EPA's effort. We are pleased with the outcomes and the resulting interagency coordination. If you have any questions, please contact Catherine at (206) 553-0325 or gockel.catherine@epa.gov.

Sincerely,



Daniel D. Opalski, Director
Office of Water and Watersheds

Enclosures

cc: Kim Kratz, NOAA